

REMARKS / DISCUSSION OF ISSUES

Introductory Remarks

Claims 1-12 and 14-29 are pending in the application. In view of the arguments presented herein, Applicants respectfully request reconsideration and withdrawal of all grounds for rejection of pending claims. If these arguments do not result in the allowance of all claims, however, Applicants respectfully request that the finality of this Office action be withdrawn because the Office action has improperly restricted the examination of this application to claims 1-21. As discussed further below, as a result, Applicants have been denied an opportunity to address any objections or rejections that may be presented with regard to the patentability of claims 22-29 when this improper restriction is withdrawn.

Rejection under 35 U.S.C. 112, first paragraph

The Office action asserts that there is no support in the specification for "fusing voltage" and "leakage threshold voltage," recited in claims 1 and 14, as amended in the previous Response. Applicants respectfully disagree for the reasons provided below.

Applicants identified the shorts probability in four regions, based on voltage and current effects, the third region being the preferred region (see FIG. 2). The voltage in this third region is higher than the voltage in the second region, and lower than the voltage in the fourth region. Specifically, Applicants teach:

"In this [second] voltage regime the "fusing" results in strong current instabilities... [and] the shorts probability increases as well." (Specification, page 6, lines 5-11.)

And, in the fourth voltage regime: "It has been experimentally observed that for voltages above a certain threshold value (~10 Volt for a typical 70 nm thick organic devices) all devices tend to a situation where the leakage current is exceptionally high. The result is short circuits." (Specification, page 6, lines 17-19.)

"As a conclusion we should state that in general for the applied voltage the following condition should be fulfilled:

$V_{FUSE} < V_{appl} < V_{th}(3)$ ". (Specification, page 6, lines 26-28)(*emphasis added*)

Accordingly, Applicants' specification clearly teaches applying a voltage (V_{appl}) within a specified voltage range that is above a fusing voltage (V_{FUSE}) and below a leakage threshold voltage (V_{th}) to a light emitting element, as recited in each of claims 1 and 14.

The Office action further asks: "How is it possible to apply a voltage that is above a fusing voltage and below a leakage threshold voltage in order to reduce short circuits between the electrodes?" (Office action, page 3, lines 9-11.) Applicants respectfully direct the Examiner's attention to pages 4 through 6 of the Specification, and, particularly, to FIG. 2 and the passages cited above.

Because Applicants' specification describes applying a voltage within a specified voltage range that is above a fusing voltage and below a leakage threshold voltage to a light emitting element, and because the subject matter was described in the specification to enable one of skill in the art to which it pertains to make and use the claimed invention, the rejection of claims 1 and 14 under 35 U.S.C. 112, first paragraph is improper and should be withdrawn.

Rejection under 35 U.S.C. 103(a)

The Office action rejects claims 1-8, 12, and 14-16 under 35 U.S.C. 103(a) over EP 1225557 by Kawase *et al* ("Kawase") and U.S. Patent No. 6,984,934 to Moller *et al* ("Moller"). The applicants respectfully traverse this rejection, because Kawase and Moller, either alone or in proper combination, fail to teach or suggest applying a voltage within a specified voltage range that is above a fusing voltage and below a leakage threshold voltage, as required by each of independent claims 1 and 14 (upon which claims 2-13 and 15-21 depend).

The Office action fails to specifically identify where either Kawase or Moller provides this teaching. Instead, it asserts that Kawase teaches applying a voltage within a specified voltage range at paragraphs [0174]-[0175] and [0182]-[0183]. Applicants respectfully disagree because at the cited paragraphs Kawase merely discloses a technique for correcting an applied voltage so as to compensate for luminance degradation over time, rather than applying a voltage within a specified voltage range.

The Office action further asserts that "it is obvious to one [of] skill in the art that in order to reduce the risk of short circuits between the electrodes, voltage needs to be applied within a certain range". Again, Applicants respectfully disagree, because prior art devices, such as Kawase, operate "rail-to-rail", and do not operate above a certain voltage level to avoid short circuits. If a voltage limit is established to avoid shorts, it is an upper voltage limit. The need to keep the voltage above a given voltage level to avoid short circuits was not appreciated by skilled artisans at the time of Applicants' invention, and the Office action fails to indicate otherwise, or to explain why, in the absence of Applicants' disclosure, a skilled artisan would set a lower limit to avoid shorts.

Because both Kawase and Moller fail to teach or suggest applying a voltage within a specified voltage range that is above a fusing voltage and below a leakage threshold voltage, Applicants respectfully maintain that the rejection of claims 1-8, 12, and 14-16 is improper and should be withdrawn.

General Comments on Dependent Claims

Since each of rejected the dependent claims depends from a base claim that is considered to be in condition for allowance, as mentioned above, Applicants believe that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. However, Applicants do not necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor do Applicants concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicants reserve the right to specifically address the patentability of the dependent claims in the future, if deemed necessary.

Restriction Requirement and Withdrawal of Claims 22-29

The Office action restricts prosecution to claims 1-21 and withdraws claims 22-29 from consideration. The applicants respectfully traverse this withdrawal.

MPEP 803 states:

803 Restriction - When Proper

Under the statute, the claims of an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent (MPEP 802.01, 806.06, and 808.01) or distinct (MPEP 806.05 – 806.05(j)).

If the search and examination of all the claims in an application can be made without serious burden, the examiner **must** examine them on the merits, even though they include claims to independent or distinct inventions.

CRITERIA FOR RESTRICTION BETWEEN PATENTABLY DISTINCT INVENTIONS

There are two criteria for a proper requirement for restriction between patentably distinct inventions:

(A) The inventions must be independent (see MPEP 802.01, 806.06, 808.01) or distinct as claimed (see MPEP 806.05 - 806.05(j)); and

(B) There would be a serious burden on the examiner if restriction is not required (see MPEP 803.02, 808, and 808.02).

As is clear in this directive, an invention may be restricted to one of two or more claimed inventions, only if the search and examination of the entire application imposes a serious burden on the Examiner. If the search and examination of the entire application can be made without serious burden, MPEP 803 states that the Examiner **must** examine it on the merits, even though it includes claims to independent or distinct inventions.

Further, MPEP 808.02 clearly states:

"Where, however, the classification is the same and the field of search is the same and there is no clear indication of separate future classification and field of search, ***no reasons exist for dividing among related inventions.***"

Applicants submit that the classification of claim 22 will be substantially identical to the classifications of claims 1 and/or 21, and thus "no reason exists for dividing among [the] related inventions" of claims 1, 9, and 21-29 in this application.

The Office action asserts that claims 22-29 are independent and distinct from the claims 1-21 because the statement "the light emitting element exhibits a higher likelihood of fusing short circuits below a first voltage and higher likelihood of leakage current above a second voltage" was not claimed originally. "Not being claimed originally," however, is not a proper criteria for restricting prosecution of claims. During the prosecution of any typical application, amendments to claims often include originally unclaimed matter; in fact this is the primary

reason for allowing amendments to claims in the event that the original claims are anticipated or obvious over the prior art. If claims are limited to that which is originally claimed, no additions to the elements of the claims would ever be proper.

The Examiner's attention is directed to MPEP 802.01, which addresses the proper criteria for restricting claims, and in particular to the definition of "independent":

"The term "independent" (i.e., >unrelated<) means that there is no disclosed relationship between the two or more inventions claimed, that is, they are unconnected in design, operation, and effect. For example, a process and an apparatus incapable of being used in practicing the process are independent inventions."

Claim 1 as originally filed included "a specified voltage range, within which the risk of short circuits is reduced". Claim 22 provides a definition of a particular specified voltage range within which the risk of short circuits is reduced, and cannot be considered to be independent of this element of the originally filed claims. Similarly, amended claim 1 includes "a specified voltage range that is above a fusing voltage and below a leakage threshold voltage", which provides a similarity of design, operation, and effect to the statement "the light emitting element exhibits a higher likelihood of fusing short circuits below a first voltage and higher likelihood of leakage current above a second voltage" in claim 22.

Because claims 22-29 are not independent and distinct from claims 1-21, and because the Office action fails to provide a proper basis for determining that claims 22-29 are independent and distinct from claims 1-21, Applicants respectfully maintain that the withdrawal of claims 22-29 from prosecution is improper under MPEP 802.01, and should be withdrawn.

As noted above, because Applicants have been denied an opportunity to address any objection or rejection of claims 22-29, withdrawal of the finality of this Office action of 27 March 2008 is requested, should the outstanding rejections be maintained.

CONCLUSION

It is respectfully believed that all of the rejections, objections, or comments set forth in the Office action have been addressed. However, the absence of a reply to a specific rejection, objection, or comment set forth in the Office action does not signify agreement with or concession of that rejection, objection, or comment. In addition, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Furthermore, nothing in this paper should be construed as intent to concede any issue with regard to any claim.

In view of the foregoing remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes after this amendment that the application is not in condition for allowance, the Examiner is requested to call the Applicants' representatives at the telephone number indicated below to discuss any outstanding issues relating to the allowability of the application.

Respectfully submitted,

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